

R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1-21 under 35 U.S.C. §103(a) as being unpatentable over Mueller et al. '663 (hereinafter Mueller) is respectfully traversed and should be withdrawn.

Mueller is directed to full swing voltage input / full swing voltage output bi-directional repeaters for high resistance or high capacitance bi-directional signal lines and methods therefor (Title).

In contrast, the present invention (claim 1) provides an input section configured to generate a first control signal and a second control signal in response to an input signal and a select signal. The input section comprises a first device and a second device each having a source and a drain configured to connect the input signal with the first control signal and second control signal in response to the select signal. One or more third devices each have a source and a drain configured to connect the first control signal and the second control signal when in a first mode. Claims 15 and 16 include similar recitations. Mueller does not teach or suggest each and every element of the presently claimed invention. As such, the presently claimed invention is fully

patentable over Mueller and the rejection should be withdrawn.

Specifically, assuming, *arguendo*, (i) the devices 708 and 710 in FIG. 7 of Mueller are similar to the presently claimed first and second devices, (ii) the device 608 in FIG. 6 of Mueller is similar to the presently claimed one or more third devices, (iii) the signal 408 of Mueller is similar to the presently claimed input signal and (iv) the signal EN_RD of Mueller is similar to the presently claimed select signal (as suggested on pages 2-3, paragraph no. 3 of the Office Action¹ and for which Applicants' representative does not necessarily agree), Mueller does not teach or suggest an apparatus comprising both (i) **a first device and a second device each having a source and a drain configured to connect the input signal with the first control signal and the second control signal in response to the select signal AND (ii) one or more third devices each having a source and a drain configured to connect the first control signal and the second control signal when in the first mode**, as presently claimed. In particular, contrary to the position taken in the Office Action that one skilled in the art would add the device 608 in FIG. 6 of Mueller to the circuit in FIG. 7 of Mueller (see lines 7-10 on page 3 of the Office Action), Mueller states:

¹ On page 3, line 7 of the Office Action, the Examiner correlates the presently claimed third devices to an element 402 in FIG. 6. However, FIG. 6 of Mueller does not contain an element 402. In the previous Office Action (paper no. 9) the Examiner referred to element 608 in FIG. 6 of Mueller as being the presently claimed one or more third devices. As such, Applicants' representative's arguments are directed to the transmission gate 608 in FIG. 6 of Mueller.

FIGS. 5-7 illustrate, in accordance with **various embodiments** of the present invention, **various alternative configurations** of a full swing voltage bi-directional tri-state buffer circuit (column 4, lines 29-33 of Mueller).

Thus, Mueller expressly states that the circuits of FIG. 6 and FIG. 7 are alternatives. Furthermore, Mueller explains how the circuit of FIG. 6 operates differently than the circuit of FIG. 7.

Specifically, with respect to FIG. 6, Mueller states:

FIG. 6 illustrates, in greater detail and in accordance with yet another embodiment of the present invention, a bi-direction full swing voltage repeater circuit 600. . . . **In this particular implementation, the input stage 602A includes a transmission gate 608** that can pass the voltages received from node 408 responsive to enable control signal EN_RD and its complement EN_RDc (column 8, lines 6-13 of Mueller, emphasis added).

Mueller teaches that the transmission gate 608 is included so that when the transistor 624 is switched ON and the transistor 626 is switched OFF, nodes 614 and 616 are both driven by the transistor 624 (column 8, lines 38-53 of Mueller). Conversely, when the transistor 624 is OFF and the transistor 626 is ON, the transmission gate 608 allows the transistor 626 to drive both of the nodes 614 and 616 (see column 8, line 54 through column 9, line 4 of Mueller). Thus, without the transmission gate 608 one of the nodes 614 and 616 would not be driven because of the switching ON and OFF of the transistors 624 and 626 in response to the input signal 408.

In contrast to the circuit 600 in FIG. 6 of Mueller where one of the transistors 624 and 626 is OFF when the other is ON, the

transmission gates 708 and 710 in FIG. 7 of Mueller are either both ON or both OFF. Specifically, Mueller provides:

In FIG. 7, the control stage 704A of the uni-directional repeater circuit 700A includes two transmission gates 708 and 710 that are implemented between nodes 712 and 714. **Transmission gates 718 [sic] and 710 can pass voltages between nodes 712 and 714, responsive to control signal EN_RD and its complement.** In this particular embodiment, the input stage 702A is implemented by an inverter 718 that inverts the input values at node 408 and outputs the inverted values to control stage 704A (column 9, lines 5-13 of Mueller, emphasis added).

Since both transmission gates 708 and 710 of Mueller are switched ON at the same time, the circuit 700 in FIG. 7 of Mueller does not have the condition for which Mueller teaches the device 608 is the cure. Specifically, in the circuit 700 of Mueller, the gate of the device P2 and the gate of the device N2 are both driven in response to the input signal 408 because the transmission gates 708 and 710 are switched ON together. The Office Action fails to provide objective evidence or a convincing line of reasoning why, in light of the teachings of Mueller, one skilled in the art with no knowledge of the presently claimed invention would add the transmission gate 608 to the circuit 700 in FIG. 7 of Mueller.

Furthermore, Mueller expressly states that FIGS. 6 and 7 are **alternative** embodiments. Therefore, Mueller does not teach or suggest the devices 708, 710 and 608 implemented as part of the same circuit. The fact that Mueller does not disclose an embodiment including all of the transmission gates 608, 708 and 710 further evidences the novelty of the presently claimed invention.

Therefore, Mueller does not teach or suggest each and every element of the presently claimed invention. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Furthermore, the Office Action does not appear to present a proper rejection with respect to claims 2-14 and 17-21. Specifically, MPEP §707.07(d) provides "where a claim is refused for any reason relating to the merits thereof it should be 'rejected' and the ground of rejection fully and clearly stated" MPEP §707.07(d) further provides that "an omnibus rejection of the claim 'on the references and for the reasons of record' is stereotyped and usually not informative and should therefore be avoided." The statements on page 3, lines 9-13 of the Office Action that with regard to claims 2-14 and 17-21 "the reference also meets all the claimed limitations in these claims" appear to be the type of omnibus rejections that are to be avoided because they are not informative as to why the reference is considered to meet the claimed limitations. As such, the rejections of claims 2-14 and 17-21 do not fully and clearly state the grounds of the rejections as required by MPEP §707.07(d). As such, the Office Action does not appear to have put forth a proper *prima facie* case of obviousness with respect to claims 2-14 and 17-21. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Furthermore, claims 2-14 and 17-21 depend, either directly or indirectly, from claims 1 or 16 which are believed to be allowable. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

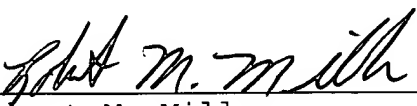
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge our office.
Account No. 50-0541.

Respectfully submitted,

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